

LAND & BUIDLING OF THE COACH HOUSE, ASHGROVE HOUSE, CHESTER ROAD, GRESFORD, WREXHAM

Green Infrastructure Statement & Baseline Biodiversity Plan

Report to
NCR Architectural Design Limited

Project number 2024/010 B

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QUALITY ASSURANCE

Title: Land & Building at the Coach House, Ashgrove Care Home, Chester Road, Gresford, Wrexham
- Green Infrastructure Statement & Baseline Biodiversity Plan
Submitted to: NCR Architectural Design Limited
Report number: 2024/010 B
Date: 29th August 2024

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Table of Contents Page number

INTRODUCTION 4
Commissioning Brief 4

Green Infrastructure Statement 5
1.1 Summary of the Proposed Development 5
1.2 Site Location & Description 5
1.3 Green Infrastructure Baseline 5
1.4 Green Infrastructure Baseline 6
1.5 Conclusion 7

2 BIODIVERSITY ENHANCEMENT MANAGEMENT PLAN 8
2.1 Rationale 8
2.2 Habitat Creation 8
2.3 Enhancement 9
Table 1 – Development activities and timing 11
Figure 1: Proposed Site plan with ecological enhancements 12

3. BIBLIOGRAPHY 14

Appendix 1: Site Photographs 16
Appendix 2: Wildlife Legislation 19
Appendix 3: Ecological Enhancements 22
Appendix 4: Ecological Experience 30

INTRODUCTION

Commissioning Brief

In August 2024 Worcestershire Wildlife Consultancy was commissioned by Mr Neil Ranford of NCR Architectural Design Limited, on behalf of his client, to undertake Green Infrastructure Statement & Baseline Biodiversity Plan on Land & Building at the Coach House, Ashgrove Care Home, Chester Road, Gresford, Wrexham. The appraisal was requested in order to ensure compliance with National and European legislation. Please note that this was requested by Wrexham County Borough Council. This document should be read in conjunction with the amended preliminary ecological appraisal by Worcestershire Wildlife Consultancy (dated July 2024 report reference 2024/010 Ai).

Green Infrastructure Statement

1.1 Summary of the Proposed Development

It is our understanding that planning permission is being sought to extend the existing coach house and turn it into a coffee shop with two studio apartments above.

1.2 Site Location & Description

The Coach House is adjacent to the Ashgrove Care Home, Chester Road, Gresford, Wrexham LL12 8PP (NGR SJ 34373 54039). The Coach House (circa 1960s) has a pitched roof covered with tight fitting slate with two Velux-style windows. The ground floor has been constructed with an exposed brick wall, housing a garage section (compartmentalised into two sections); the upper floor exterior has a facade half-timber effect with a daylight well-lit upper room and no loft void. The area surrounding the building has been recently cleared of vegetation and now contains disturbed ground with a few shrubs near the building and some mature trees on the border and a short conifer hedge.

The rest of the immediate site, outside the proposed works area, includes the Ashgrove Care Home which includes a series of 1960s and 1980s buildings, hard standing, well maintained amenity lawns and mature trees. The wider area comprises of residential properties of Gresford, hedgerows, cereal fields, pasture, sports pitches, the B5445 Chester Road and a few ponds – all beyond 200m away.

1.3 Green Infrastructure Baseline

There are five statutory ecological site within 2.0 km of the site, including Vicarage Moss, Marford Quarry, Chwarel Singret and Llay Bog Sites of Special Scientific Interest (SSSI) as well as Midland Meres and Mosses Ramsar site (phase 2). There are no non-statutory ecological sites within 1km. The statutory ecological sites are considered to be sufficiently distant as to not negatively affect their ecological integrity by these very low-impact works.

The proposed area of the modified coach house is an area of disturbed ground with remnant improved grassland and very limited areas of scrub and as such, it is of very low ecological value and therefore there are no ecological issues regarding the habitat.

Of the remainder of the site, two ‘key habitats’ (listed in Section 7 Environment Wales Act 2016) the perimeter ‘hedgerow’ and ‘hedgerow with trees’ will be retained. The Ecologist concludes that these features together, hold almost all of the site biodiversity.

The arboriculturalist (Aspect Arboriculture report ref 12014 TS 01 dated March 2024) has recommended the removal of two 'U' category trees but appears that no trees are required to be removed to allow the construction of the proposed scheme, as these are outside of the main development zone.

1.4 Green Infrastructure Baseline

Green Infrastructure (GI) is defined by the Town and Country Planning Association as follows:

Green infrastructure is a network of multi-functional green space and other green features, urban and rural, which can deliver quality of life and environmental benefits for communities.
Green infrastructure is not simply an alternative description for conventional open space. It includes parks, open spaces, playing fields, woodlands – and also street trees, allotments, private gardens, green roofs and walls, sustainable drainage systems (SuDS) and soils. It includes rivers, streams, canals and other water bodies, sometimes called 'blue infrastructure'.
Key features:

The key features of green infrastructure are that it is a network of integrated spaces and features, not just individual elements; and that it is 'multi-functional' – it provides multiple benefits simultaneously.
These can be to:

- *support people's mental and physical health*
- *encourage active travel*
- *cool urban areas during heat waves*
- *attract investment*
- *reduce water run-off during flash flooding*
- *carbon storage*
- *provide sustainable drainage*

The extent to which green infrastructure provides these benefits depends on how it is designed and maintained, and the maturity and health of the elements (such as trees) that form it.

The site lies within a landscape that has a high level of connectivity. A network of hedgerows extends from the site to the north, towards Mynydd Carn Goch, and into farmland to the east and west. To the south, across the B4620, there lies an extensive area of similar agricultural land with hedges and woodlands and to the west of this, there is an area of rough grassland similar to Mynydd Carn Goch (Stafford Common) and a large cemetery. The development site is simple and opportunities for new links within this well-connected landscape are limited. However, the GI of the site and of the area will be enhanced as a result of the proposed landscape measures. Notably:

1.4.1 Protect existing features identified in the Ecological Assessment

The two key habitats listed in Section 7 Environment Wales Act 2016; the perimeter 'hedgerow' and 'hedgerow with trees' will be retained. These features will be identified as 'Ecological corridor' (Planted) or 'Ecological corridor' (Natural Regeneration) and protected from disturbance by fences.
The 'swamp' vegetation, which is '*valuable as a habitat for a wide range of invertebrates, and amphibian species, although currently much shaded by Willow'*, will be translocated into the new pond feature and will benefit from the removal of the Willow. Some low growing tree species will be added close to the pond to provide cover and food source for small birds (but not create excessive shade).

1.4.2 Reinforce features identified

Ecological corridors are recommended in the Ecologist Report (Figure 2). These will comprise areas of reinforcement native species 'hedgerow' planting (western and northern boundaries) and natural regeneration (eastern boundary). This will increase the amount of good habitat for nesting birds, in particular. The proposed stone-filled gabion retaining walls will increase wildlife value by providing some shelter for small animals and niche environments for plants.

1.5 Conclusion

The proposed development will introduce new habitats associated with the site drainage and biodiversity enhancements in the form of bird and bat boxes and refugia for small animals and invertebrates. By protecting identified GI features of value, the scheme will also improve links with the surrounding landscape.

Green Infrastructure connectivity will be enhanced as a result.

2 BIODIVERSITY ENHANCEMENT MANAGEMENT PLAN

2.1 Rationale

In view of the proposed works, the existing habitat will be partially retained whilst some new habitats will be created and thus this should not be perceived as a negative effect as the existing habitats, bar the retained willow, are of relatively low ecological value. Although it is possible to create new habitats this will be governed by the need to integrate biodiversity with the scheme and it is necessary to be pragmatic rather than aspirational.

Space will inevitably be limited and it is better to concentrate on creating larger areas of greater value than to create a multitude of tiny fragments that have little purpose within the context of the site or the local area. At the same time, it should be possible to give the wider site some structural diversity while working within the confines of the development.

Additional landscape planting should consist of native species of a mixture similar to that of the local area and should also be of local provenance as far as possible. Where non-native exotic species are used, they should be species that have benefit for wildlife by providing nectar and/or fruits, nuts and seeds which provide food sources for insects, birds and small mammals as well as being aesthetically pleasing. Single flowering varieties should be used as these provide a greater source of nectar. An overall benefit will be connectivity for pollinating insects in line with the current pollinators project. Here small elements can contribute to the enhancement of the overall site, for example planting an area with native berry-bearing shrubs and bushes and climbing plants such as honeysuckle (*Lonicera periclymenum*). This planting could also include species that, while not necessarily native or truly wild, will encourage invertebrates by providing nectaring sources and food plants for larvae as well as being aesthetically pleasing. Details are included in Appendix 4.

The landscaping scheme should adhere to best horticultural practice, including the use of peat-free composts, mulches and soil conditioners.

2.2 Habitat Creation

With regard to the creation of new habitat it is possible to create areas of wildflower grassland and to integrate this into the landscaping. As the field is already partially mown, a wildflower grassland may be difficult to create in the immediate grounds unless temporarily fenced off during the Spring period and mown late summer (no earlier than mid-July of any year inclusive) after the seeds have set. This is a relatively simple enhancement; it is of great benefit to a diversity of species and is attractive to humans. Areas of wildflower grassland should be created on the margins of the development.

As a consequence of the development works some topsoil will be removed and this will result in areas of subsoil being available. This will have a lower fertility level than

the topsoil and it can be used as a basis for the creation of wildflower grassland as higher fertility favours coarse grasses over flowering herbs. Wildflower grasslands should be created by depositing sub-soil from the development onto the areas for the wildflower meadows and then sowing an appropriate mix of species. Seeds should be spread by broadcasting them during the autumn months. A suitable range of species can be found in the Basic General Purpose Meadow Mixture EM1 from Emorsgate Seeds. Several mixes are commercially available and further information is provided in Appendix 4. Most of it will consist of perennial native species without grasses but if grasses are to be included then in order to produce a more diverse sward the seed mix should include less robust species such as fescues (*Festuca* spp.) and crested dog's-tail (*Cynosurus cristatus*) and must not include coarse species such as perennial rye-grass (*Lolium perenne*) or cock's-foot (*Dactylis glomerata*).

When established, the wildflower grassland will need little management apart from an annual cut no earlier than the end of July. The cut material should be removed as hay or for composting. Unlike permanent pasture, a regime of hay cutting will allow the grassland plants to flower and set seed in the late summer months, thereby increasing the likelihood of propagation. Mowing should take place during a dry period to prevent disturbance to the soft ground but also to prevent the deterioration of the herbage.

It will be necessary to monitor and control any invasive weeds by spot spraying and/or hand pulling. Hand pulling is the preferred method but if spraying is the chosen method, then the systemic herbicide used must be carefully selected and applied so that it does not affect anything other than the target species. The only herbicide that would be suitable here would be glyphosate since this becomes inert on contact with the soil and will only affect plants that have been spot treated. It is likely that within the near future glyphosate will no longer be approved and it will require an alternative herbicide.

As trees and shrubs will be planted where appropriate within the landscape design these should involve block-planting or small clumps, rather than isolated individual specimens, in order to provide shelter, foraging and breeding sites for birds and invertebrates.

Pedunculate oak (*Quercus robur*) and field maple (*Acer campestre*) are characteristic of the area and will be suitable for individual planting. Otherwise, ornamental forms of cherry *(Prunus avium/padus)* or rowan *(Sorbus aucuparia)* will be appropriate where larger trees are less suitable.

2.3 Enhancement

Whilst the onsite non-native hedge will be lost, there is a proposal to include a new native species hedge. The native hedgerow species mix should include the below. Please note that bramble (*Rubus fruticosus* agg.) is not considered to be a woody species within the Hedgerow Regulations 1997 and although very beneficial for foraging animals, it colonises easily and therefore it is recommended that this

species does not contribute to the number of woody species planted, although it can still be planted within the hedgerow. The hedgerow should aim to create a species-rich hedgerow consisting of at least 7 of the woody species listed below.

Common hawthorn (*Crataegus monogyna*)
Blackthorn (*Prunus spinosa*)
Field maple (*Acer campestre*)
Hazel (*Corylus avellana*)
Holly (*Ilex aquifolium*)
Dogwood (*Cornus sanguinea*)
Elder (*Sambucus nigra*)
Guelder rose (*Viburnum opulus*)
Privet (*Ligustrum vulgare*)

With regards to bat and bird boxes, the site would benefit from the addition of these placed on the existing suitable large trees in the vicinity. Ideally the bat boxes should face either south-west or south-east and no less than 2.5m high from ground level, preferably higher, i.e. 3 – 4m would be ideal. Bird boxes should ideally face north to east. In addition, it is best not to place the bat/bird box over or near a window or door as the residents will not be pleased to be walking on or cleaning up bird/bat droppings.

In this case **a total of 2** should be installed on site, the following are recommended:

- **Two Vincent Pro bat box or similar (see Appendix 4).**

The retained tree and one on the newly developed building would be ideal for the location of the bat boxes. Bat boxes should be installed at minimum heights of 2.5m, facing away from external illumination and should ideally face in a south-east or south-west orientation.

The new building would also benefit from house sparrow terraces and/or swift brick installed. Both of these species are associated with houses and having undergone a steep decline in numbers over recent years they are now listed as being of conservation concern[1] (Red List in the case of the house sparrow and Amber List for swifts). The inclusion of such nesting facilities would contribute towards slowing their decline and assist in their conservation as well as enhancing the biodiversity within the development and wider town.

With regards to bird boxes **a total of 4** should be installed on site depending on availability. The following are recommended:

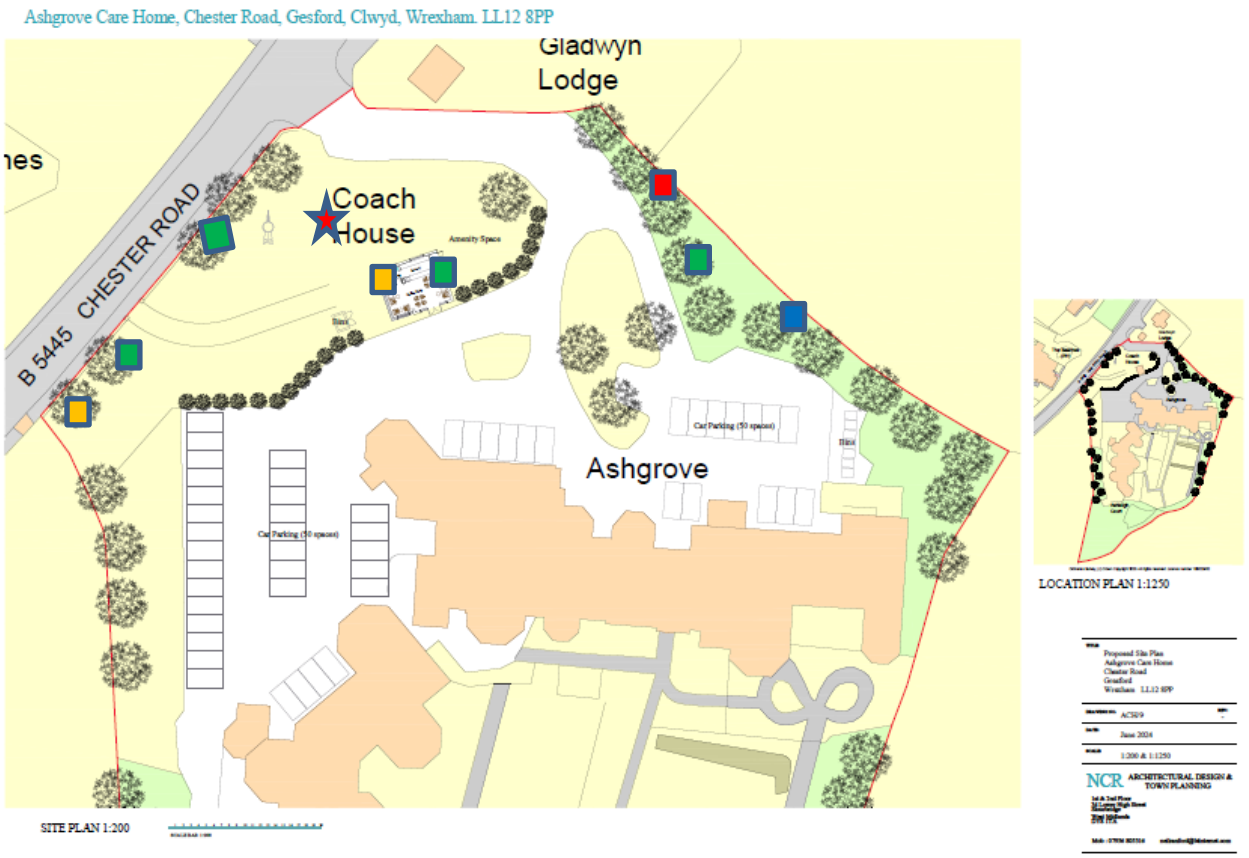
- **1 – Schwegler 1SP Sparrow terraces or similar**;
- **3 -tree nest boxes**

[1] JNCC, BTO, RSPB 2015. Birds of Conservation Concern 2015. RSPB, Sandy.

Table 1 – Development activities and timing
(*NB*: The following table is highly dependent on timings of the proposed works following agreement from Malvern Hill District Council and is thus only a suggested schedule)

Time of year	Proposed action	Impact on bats and birds enhancement
April 2024 and April 2025	Erection of Vincent Pro bat box or similar and an open bird box on the retained tree prior to works commencing.	Provided to act an enhancement for both birds and bats
November 2024 and January 2025	Erection of Vincent Pro bat box or similar and a sparrow terrace on the Royal Oak	Provided to act an enhancement for both birds and bats.
January 2025 and December 2025	Erection of a sparrow terrace on the new build	Provided to act an enhancement for both birds and bats.
January 2025 and January 2026	Implementation a hedgehog box and insect hotel post development	Provided to act an enhancement for both insects and hedgehogs.
January 2025 and July 2026	Implementation of wildflower areas	Provided to act an enhancement for both insects.

Figure 1: Proposed Site plan with ecological enhancements



KEY

Green & orange rectangles on the site features indicate bird/bat boxes respectively.

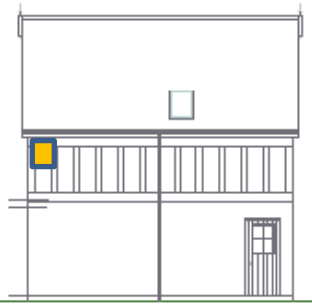
Turquoise rectangles indicate hedgehog box. Red rectangles represent insect hotels.

Wildflower areas can be created around the edges of the site (possible areas indicated by red star).

Ashgrove Care Home, Chester Road, Gesford, Clwyd, Wrexham. LL12 8PP



Front Elevation 1:50
(proposed)



Side Elevation 1:50
(proposed)



Rear Elevation 1:50
(proposed)

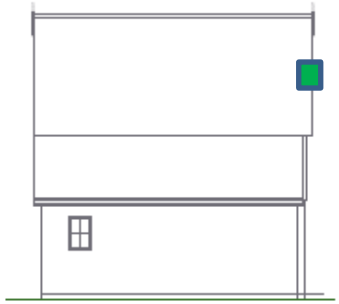
KEY
Green & orange rectangles on the site features indicate bird/bat boxes respectively.



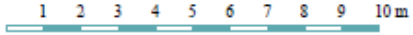
Ground Floor Plan 1:50
Coffee Shop



First Floor Plan 1:50
Staff Living Accomodation



Side Elevation 1:50
(proposed)



SCALE BAR 1:50



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Appendix 1: Site Photographs



Plate 1: View of the coach house – north-eastern elevation.



Plate 2: View of the coach house – south-eastern evaluation.



Plate 3: View of the coach house – western evaluation.



Plate 4: View of the ground floor garage.



Plate 5: View of first floor – note the lack of a roof void and the well-illuminated environment from natural daylight.



Plate 6: View of the loose piece of the façade timber framing -eastern elevation.



Plate 7: View of the eastern elevation – note the eaves all around the building appear tight and lack ingress points.



Plate 8: View of the remnant scrubby vegetation adjacent to the coach house.



Plate 9: View of the main plot facing southwards.

Appendix 2: Wildlife Legislation

Badgers
Under the ***Protection of Badgers Act 1992*** and the ***Wildlife Order (NI) 1985***, it is illegal to:
• wilfully kill, injure, take, possess or cruelly treat a badger – or attempt to do so
• intentionally or recklessly damage, destroy or obstruct access to a badger sett (whether or not there is a badger in it at the time)
• disturb a badger while it is occupying a sett
• sell, keep or mark a healthy badger or possess any dead badger or part thereof.

Bats
Under the ***Wildlife and Countryside Act 1981 (as amended)***, the ***Wildlife Order (NI) 1985*** and ***the Conservation of Habitats and Species Regulations 2017*** (and ***NI 1995***) it is illegal to:
• intentionally or deliberately kill, injure or capture bats
• intentionally, deliberately or recklessly*disturb bats
• intentionally, deliberately or recklessly*damage, destroy or obstruct any place used for shelter or protection, ie bat roosts (even if they are not currently occupied)
• possess, sell or transport a bat, or anything derived from it.

Dormice
Dormice and their habitat are fully protected under the ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Conservation of Habitats and Species Regulations 2017***, making it illegal to:
• intentionally or deliberately kill, injure or capture dormice
• intentionally, deliberately or recklessly* disturb dormice
• intentionally, deliberately or recklessly* damage, destroy or obstruct breeding or resting sites or places used for shelter or protection (whether occupied or not)
• possess or transport a dormouse (or any part thereof) unless under licence
• sell or exchange dormice.

Otters
Otters and their habitat are fully protected under the ***Wildlife and Countryside Act 1981 (as amended)***, the ***Wildlife Order (NI) 1985*** and the ***Conservation of Habitats and Species Regulations 2017*** and ***(NI) 1995.*** It is illegal to:
• intentionally or deliberately kill, injure or capture otters
• intentionally or recklessly* disturb otters
• intentionally or recklessly* damage, destroy or obstruct breeding or resting sites or places used for shelter or protection (holts, couches etc) – whether occupied or not
• possess or transport an otter (or any part thereof) unless under licence
• sell or exchange otters.

Water Vole
Water voles are protected under the ***Wildlife and Countryside Act 1981 (Amendment 1998)***, making it illegal to:
• intentionally or deliberately kill, injure or capture water voles

• intentionally or recklessly* disturb voles
• intentionally or recklessly* disturb, destroy or obstruct access to any place that water voles use for shelter or protection (whether occupied or not);
• possess or transport a water vole (or any part thereof) unless under licence
• sell or exchange water voles.

Birds
All wild birds (ie resident, visiting and introduced species) in the UK are protected by law under the ***Wildlife and Countryside (WCA) Act 1981 (as amended)***, the ***Wildlife (NI) Order 1985, and*** the ***Wildlife and Countryside (Amendment (Scotland) Regulations 2001***, making it illegal to:
• kill, injure or take any wild bird
• take, damage or destroy the nest of any wild bird while it is being built or in use
• take or destroy the eggs of any wild bird
• possess or control (e.g. for exhibition or sale) any wild bird or egg unless obtained legally.

Birds that receive special protection
Species listed in ***Schedule 1*** of the ***WCA 1981*** and the ***Wildlife Order (NI) 1985,*** such as the barn owl and peregrine falcon, receive special protection. In addition to the above legislation, it is also illegal to *intentionally or recklessly** disturb any bird listed on ***Schedule 1*** while it is nest-building, or at or near a nest containing eggs or young, or to disturb any of its dependent young. Disturbance could occur, for example, through noise caused by construction works in close proximity to the nest. * The term “recklessly” applies in England and Wales following the ***CRoW Act 2000***.

White-clawed crayfish
Under the ***Wildlife and Countryside Act 1981 (as amended)*** it is illegal to *intentionally take (i.e. capture), sell, barter or exchange* white-clawed crayfish.

Great crested newt
Great crested newts and their habitat are *fully protected* under the ***Wildlife and Countryside Act 1981 (as amended)***, and ***Conservation of Habitats and Species Regulations 2017.*** It is illegal to:
• intentionally or deliberately capture, kill or injure great crested newts
• intentionally, deliberately or recklessly* damage, destroy or obstruct access to any place used for shelter or protection, including resting or breeding places (occupied or not)
• deliberately, intentionally or recklessly* disturb great crested newts when in a place of shelter
• sell, barter, exchange or transport or offer for sale great crested newts or parts of them. The legislation covers all life stages: eggs, larvae, juveniles and adults.

Widespread Amphibians
In England, Scotland and Wales the common frog, common toad, smooth newt and palmate newt are all protected against sale, trade etc under the ***Wildlife and Countryside Act 1981 (as amended).***

Widespread reptiles
All native British reptiles are protected against intentional killing and injury under the ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Wildlife (NI) Order 1985***. ***In England, Scotland and Wales,*** slow-worm, common lizard, adder and grass snake are also protected against killing, injury and sale, barter or exchange, but their habitats or places of shelter are not specifically protected.

Invertebrates
Certain invertebrate species are covered by the ***Wildlife and Countryside Act (WCA) 1981*** (***as amended***) and the ***Wildlife (NI) Order 1985*** (***as amended***) and given full protection against killing and injury, damage and/or destruction of their place of shelter, or taking. Other species are protected against sale only. For those species receiving *full protection*, it is illegal to:
• intentionally kill, injure or capture
• intentionally or recklessly* disturb
• intentionally or recklessly* damage, destroy or obstruct places of shelter or protection, including breeding sites (occupied or not)
• possess or transport an animal (or any part thereof) unless under licence
• sell or exchange animals.

* The term “recklessly” was added as an amendment to the ***Wildlife and Countryside Act 1981*** as a result of the ***CRoW Act 2000 –*** this applies to England and Wales only.

Plants
Plants are protected by the law. The ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Wildlife (NI) Order 1985*** make it an offence for any person who is not “authorised” to intentionally uproot any wild plant. An “authorised” person can be the owner or occupier of the land on which the action is taken, or anybody authorised by them; or any person authorised in writing by the local authority for the area within which the action is taken. In addition, the ***Wildlife and Countryside Act 1981 (as amended)*** also includes, within ***Schedule 8***, in the order of 60 plant species that it is illegal for any person to intentionally pick, uproot or destroy. It also makes it an offence to offer wild bluebell (*Hyacinthoides non-scripta*) bulbs for sale.

The Hedgerow Regulations 1997 (Environment Act 1995)
Under the Hedgerows Regulations it is against the law to remove most countryside hedges without first getting the permission of the local district council. These Regulations were introduced to offer protection to 'Important Hedgerows', as defined by the Regulations, in response to concern at the rapid loss of hedgerows in England and Wales. Various criteria specified within the regulations are used to identify important hedgerows for wildlife, landscape or historical reasons.

Appendix 3: Ecological Enhancements

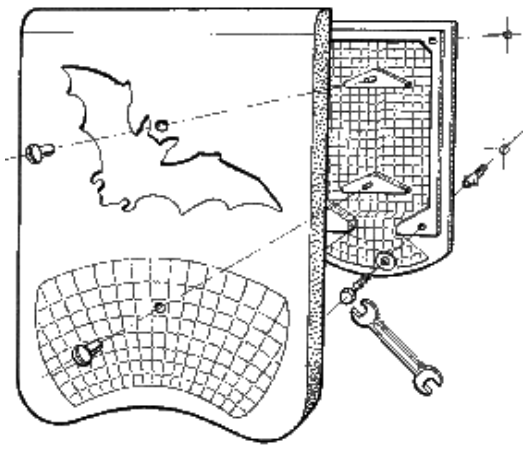
BAT ROOSTING FEATURES





Schwegler 1FF bat box





Schwegler 1WQ Summer & Winter bat box





Habibat 001 Bat Box – integral bat box, fitted into wall



Schwegler 2FN bat box for installation in trees

BIRD BOXES







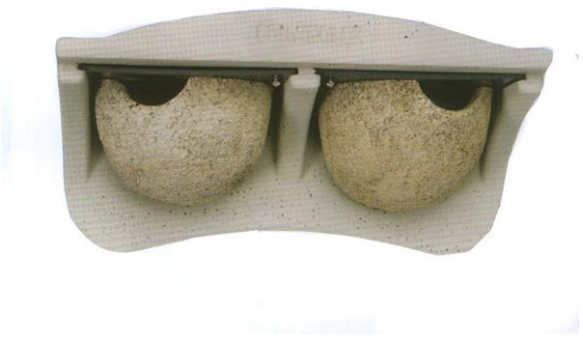




Various designs of swift boxes



House Sparrow terrace box



House Martin terrace box



Hole-fronted bird box (for trees)



Open-fronted bird box (for trees)



Swallow cup

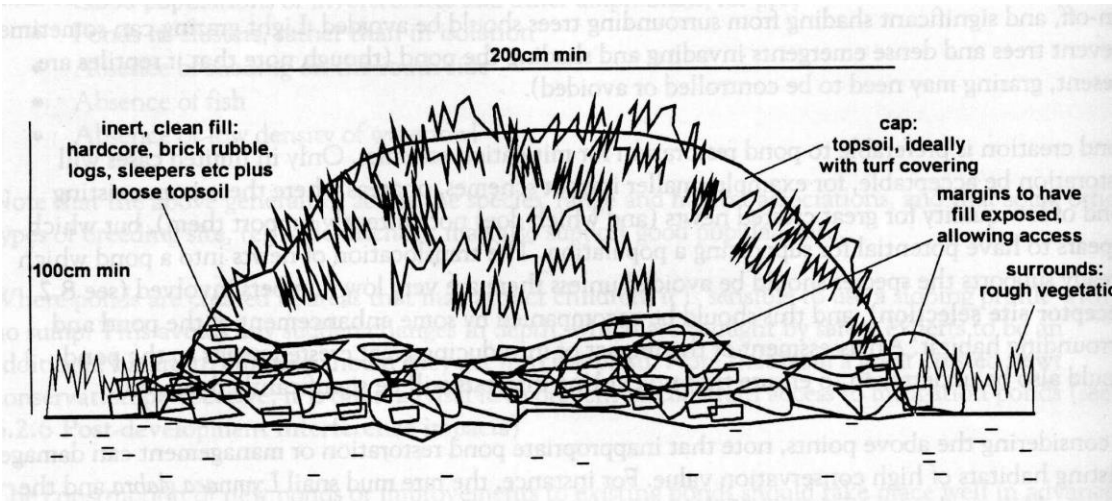
HEDGEHOG FEATURES



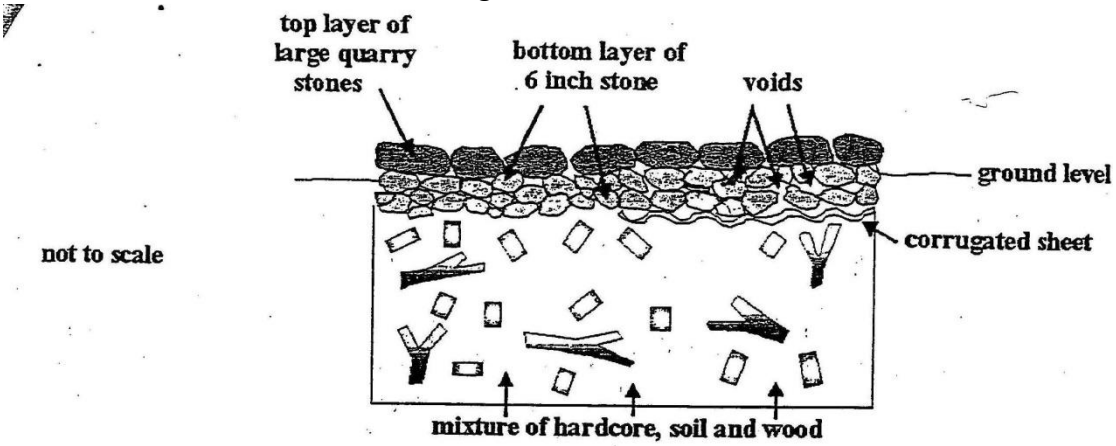
Hedgehog nesting box



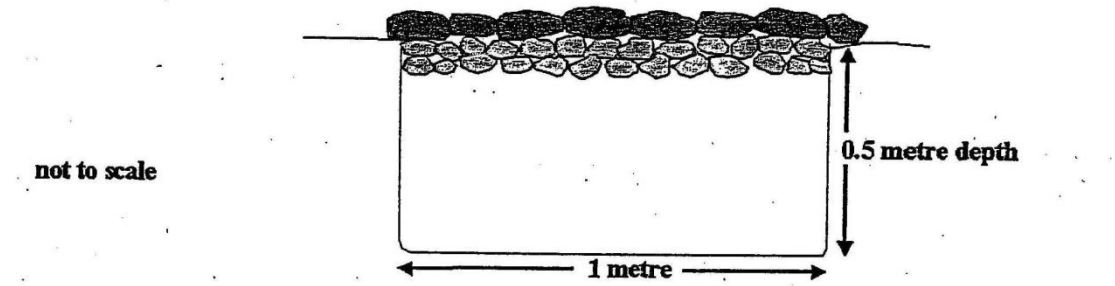
Woodstone hedgehog house



Taken from Great Crested Newt Mitigation Guidelines



LONGITUDINAL SECTION



CROSS SECTION

Planting Choices for Wildlife

Many wildlife species benefit greatly from considerate planting choices that still meet our practical and aesthetic needs. Plants and trees provide food for wildlife as well as places to nest and rest. Vegetation providing a variety of these functions creates an environment more beneficial for wildlife.

Non native species

Native species provide the best habitat for UK wildlife but there are also many non-native species, which are single flowering and/or provide fruits/nuts/seeds that can be used as food sources for insects, birds and small mammals. When using these non-native species in planting schemes, care should be taken to avoid invasive species such as Cotoneaster and Rhododendron. This is especially important when sites are adjacent to open countryside particularly nature reserves.


Fire thorn *Pyracantha coccinea*

Uses of Wildlife Planting

Wildlife value can be easily incorporated into visually pleasing and useful green areas and amenity spaces, such as borders, grass verges and tree screens.

Attractive Borders: Well selected decorative borders can be valuable for many insects and birds. Native plants can be mixed with single flowering ornamental species to add aesthetic interest and increase the flowering period of a planting scheme.

Shrubs and hedges: Native spiky species like blackthorn and hawthorn are effective barriers when used in hedges. They also provide an attractive feature at all times of year especially when in blossom and fruit. Bushy areas of foliage provide useful nesting and feeding areas for birds and small mammals, as well as foraging/commuting corridors for bats.

Grasses mixes and verges: Leaving uncut areas of suitable grasses provides great wildlife value and is economical to manage. Diverse grassy areas and verges also create an attractive human environment with different flowers and colours. There are a range of native grass and flower mixes for various soil types available on the market.


Wild flower grass mix

Species Selection

There are wildlife friendly species suitable for all situations, from fields, verges, shady corners or small gardens. Listed below are native wildlife friendly plant species organised by type and suitability for different locations.

Large Trees

Ash *Fraxinus excelsior*
Beech *Fagus sylvatica*
English Elm *Ulmus procera*
Oak *Quercus robur* or *Q. petraea*
Small-leaved lime *Tilia cordata*
White willow *Salix alba*
Wild cherry *Prunus avium*


White willow

Medium/small trees

Alder *Alnus glutinosa*
Aspen *Populus tremula*
Crab apple *Malus sylvestris*
Field maple *Acer campestre*
Holly *Ilex aquifolium*
Rowan *Sorbus aucuparia*
Silver birch *Betula pendula*
Yew *Taxus baccata*


Tussocky grassland

Native shrubs

Blackthorn *Prunus spinosa*
Dogwood *Cornus sanguinea*
Elder *Sambucus nigra*
Guelder rose *Viburnum opulus*
Hawthorn *Crataegus monogyna*
Hazel *Corylus avellana*


Blackthorn

Plants for shady areas

Archangel *Lamiastrum galeobdolon*
Betony *Stachys officinalis*
Bluebell *Hyacinthoides non-scriptus*
Bugle *Ajuga reptans*
Foxglove *Digitalis purpurea*
Ground ivy *Glechoma hederacea*
Lily of the valley *Convallaria majalis*
Lords-and ladies/cuckoopint *Arum maculatum*
Nettle-leaved bellflower *Campanula trachelium*
Primrose *Primula vulgaris*
Sweet violet *Viola odorata*
Wild daffodil *Narcissus pseudonarcissus*

Plants for marshy areas & pond edges

Bugle *Ajuga reptans*
Hemp agrimony *Eupatorium cannabinum*
Marsh marigold *Caltha palustris*
Marsh woundwort *Stachys palustris*
Meadowsweet *Filipendula ulmaria*
Purple loosestrife *Lythrum salicaria*
Ragged robin *Lychnis flos-cuculi*
Water avens *Geum rivale*
Water forget-me-not *Myosotis scorpoides*
Water mint *Mentha aquatica*
Water violet *Hottonia palustris*
Yellow flag *Iris pseudacorus*

Beneficial cultivated plants
(generally non-natives)

Grecian windflower *Anemone blanda*
Angelica *Angelica archangelica*
Aubretia *Aubretia deltoidea*
California poppy *Eschscholtzia californica*
Candytuft *Iberis sempervirens*
Christmas rose *Helleborus niger*
Cosmos *Cosmos bipinnatus*
Evening primrose *Oenothera biennis*
Fleabane *Erigeron spp.*
Forget-me-not *Myosotis spp.*
French marigold *Tagetes patula*
Globe thistle *Echinops ritro*
Grape hyacinth *Muscari botryodes*
Hollyhock *Althaea rosea*
Honesty *Lunaria rediviva*
Ice plant *Sedum spectabile*
Lenten rose *Helleborus orientalis*
Tree mallow *Lavatera spp.*
Michaelmas daisy *Aster nova-belgii*
Mint *Mentha x rotundifolia*
Perennial cornflower *Centaurea montana*
Perennial sunflower *Helianthus decapetalus*
Phlox *Phlox paniculata*
Poached-egg plant *Limnanthes douglasii*
Red valerian *Centranthus ruber*
Snapdragon *Antirrhinum majus*
Spring crocus *Crocus chrysanthus* and hybrids
Sweet alyssum *Lobularia maritima*
Sweet bergamot *Monarda didyma*
Sweet William *Dianthus barbatus*
Tobacco plant *Nicotiana affinis*
Wallflower *Cheiranthus cheiri*
Alpine rock-cress *Arabis alpina*
Winter aconite *Eranthis hyemalis*
Yellow alyssum *Alyssum saxatile*

Native wildflowers for borders

Agrimony *Agrimonia eupatoria*
Betony *Stachys officinalis*
Bluebell *Hyacinthoides non-scriptus*
Chicory *Cichorium intybus*
Chives *Allium schoenoprasum*
Common poppy *Papaver rhoeas*
Corncockle *Agrostemma githago*
Cornflower *Centaurea cyanus*
Corn marigold *Chrysanthemum segetum*
Cowslip *Primula veris*
Cuckooflower *Cardamine pratensis*
Dame's-violet *Hesperis matronalis*
Devil's-bit scabious *Succisa pratensis*
Field scabious *Knautia arvensis*
Foxglove *Digitalis purpurea*
Goldenrod *Solidago virgaurea*
Great mullein *Verbascum thapsus*
Greater knapweed *Centaurea scabiosa*
Harebell *Campanula rotundifolia*
Herb-robert *Geranium robertianum*
Lady's bedstraw *Galium verum*
Marjoram *Origanum vulgare*
Meadow cranesbill *Geranium pratense*
Common mallow *Malva sylvestris*
Oxeye daisy *Leucanthemum vulgare*
Primrose *Primula vulgaris*
Red campion *Silene dioica*
Snowdrop *Galanthus nivalis*
Spiked speedwell *Veronica spicata*
Tansy *Tanacetum vulgare*
Teasel *Dipsacus fullonum*
Toadflax *Linaria vulgaris*
White campion *Silene alba*
Wild thyme *Thymus drucei*
Yellow loosestrife *Lysimachia vulgaris*


Marjoram


Cornflower


Perennial sunflower

Appendix 4: Ecological Experience

Joshua Evans BSc (Hons) MCIEEM – Consultancy Manager & Principal Ecologist

Joshua joined the team in 2008, previously working as an independent consultant, prior to that he worked for the National Trust and Forestry Commission as an ecological surveyor. For the last 27 years he has worked in both the conservation and consultancy sector. Many of these years were in woodland conservation and management. He is an experienced ecologist with particular expertise in terrestrial and aquatic invertebrates, amphibians, reptiles, small mammals, riparian mammals and bats and holds Natural England (NE) and Natural Resources Wales licences for bats, dormice, great crested newts, white-clawed crayfish and barn owls. He is also an experienced botanist with National Vegetation Classification skills, the recent UK Habitat Classification System and an experienced bryologist. In addition, he has experience in biodiversity net gains and offsetting and being involved in range of conservation and developmental management plans including heritage projects and habitat restoration.

WORCESTERSHIRE wildlife CONSULTANCY

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Worcestershire Wildlife Consultancy provides an independent professional ecological service, encompassing a broad range of ecological knowledge and skills. While maintaining a local focus within the Midlands, we also operate throughout the UK.

We offer a competitive pragmatic solution based environmental service to the business and development sector, local authorities, public utilities, Natural England and non-governmental organizations (NGOs), as well as individual clients.

Worcestershire Wildlife Consultancy (WWC) has been the consultancy for Worcestershire Wildlife Trust since 1988, providing a wealth of experience to the environmental and ecological sector. All the profits of the ecological Consultancy are donated to Worcestershire Wildlife Trust and used to support its charitable work throughout the County.

Worcestershire Wildlife Consultancy has wide-ranging ecological and environmental expertise and a team of specialist associates allowing us to offer a comprehensive list of ecological services:

- **Phase 1 Habitat Surveys**
- **Protected Species Surveys**
- **Bat Surveys**
- **Great Crested Newt Surveys**
- **Reptile Surveys**
- **Badger Surveys**
- **Nesting Bird Surveys**
- **Breeding Bird Surveys**
- **Barn Owl surveys**
- **Otter & Water Vole Surveys**
- **Dormouse Surveys**
- **Invertebrate surveys**
- **Small Mammal Surveys**
- **Botanical Surveys (incl. NVC – National Vegetation Survey)**
- **Hedgerow Surveys**
- **Invasive Weed Surveys**
- **Protected Species Licence Applications (incl. Bat Low Impact Class licence)**
- **Ecological Clerk of Works**
- **Mitigation Advice & Implementation**
- **Monitoring – Botanical & Wildlife**
- **BREEAM Assessments (incl. Code for Sustainable Homes)**
- **Ecological Planning Advice**
- **GIS Analysis**
- **Pond Surveys**
- **River Corridor Surveys**
- **Habitat Management Plans**
- **Habitat Creation/Restoration Advice & Implementation**
- **Arboricultural Surveys**
- **Training/CPD**

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